# Cattle- Cracks in Hooves

**Sand Crack (Vertical Fissure of the hoof wall)**
A sandcrack is a vertical split in the hoof wall extending from the coronet to a variable distance along the direction of growth. Sandcracks are more commonly seen in the inner wall of the hind foot or the outer wall of the front foot. Large incomplete cracks of the wall are often not associated with severe lameness.
These lesions are associated with trauma to the cornet band (where the hoof horn grows down from). It is most commonly seen in warm, dry and windy conditions which make the hoof horn dry and brittle. It is hypothesized, hoof conformation (shape) is a predisposing factor. Beef cattle are more commonly affected.
Clinical signs
Vertical fissures can occur in 4 distinct forms:

- 1. Fissures of the coronet band only.
- 2. Fissures of the wall extending from the skin-horn junction to the middle of the claw wall.
- 3. Fissures of the wall extending from the skin-horn junction to the toe.
- 4. Fissures of the wall extending from the middle of the hoof wall to the toe
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These may be very large, but do not cause lameness unless foreign material (mud and dirt) becomes impacted causing pressure and damage to the deeper horn layers. In this case granulation tissue may then start to develop through the area of the crack.
Treatment

- Careful paring of the lesion is required to open up the fissure to prevent pressure.
- Wooden block or cow-slip applied to the unaffected/ least affected claw.
- If granulation tissue is present, an astringent such as copper sulphate is applied to the lesion and bandaged.
- NSAID (pain relief) is given.
- Antibiotics maybe required (Penicillin)
- These animals may require several visits to achieve a sound hoof.
- These animals are likely to experience similar lesions in the future.

***Axial Wall Cracks, axial groove crack, axial groove fissure)***
Axial wall cracks, similar to sandcracks, occur in or adjacent to the axial groove of the inner hoof wall. Their cause is unknown, but is probably more related to environmental than genetic factors as they occur across dairy and beef breeds.
Axial wall cracks are often present without causing lameness. When they do cause lameness, it is often following heavy rain when fine mud becomes available. The mud is forced into the cracks causing pressure on the underlying horn tissues. Secondary painful polyps of granulation tissue may emerge from cracks in long standing cases.
Treatment:

- Careful paring of the lesion is required to open up the axial wall crack to prevent pressure when walking.
- Wooden block or cow-slip applied to the unaffected/ least affected claw.

- If granulation tissue is present, an astringent such as copper sulphate is applied to the lesion and bandaged.
- NSAID (pain relief) is given.
- Antibiotics maybe required (Penicillin)
- These animals may require several visits to achieve a sound hoof.
- These animals are likely to experience similar lesions in the future.

**Horizontal Fissures (Cracks) of the Hoof Wall**

These are a discontinuity of the wall of the hoof in the plane parallel to the coronet band. This condition may occur in all the hooves in the one animal. It is generally related to a severe upset in metabolism (eg: mastitis, metritis, ruminal acidosis, or another disease). Several months after such an episode, a groove is evident in the horn running parallel to the coronet. In severe cases the lower half of the hoof remains attached by the sensitive horn tissues and this causes extreme pain.

Treatment

- Careful foot trimming to remove part of the separated hoof will often give relief until the new hoof wall extends down the foot.
- A block or cowslip should be applied to the other claw if sound or less affected.
- If granulation tissue is present, an astringent such as copper sulphate is applied to the lesion and bandaged.
- NSAID (pain relief) is given.
- Antibiotics maybe required (Penicillin)
- These animals may require several visits to achieve a sound hoof.

Animals severely affected (involving all 8 claws) may need be slaughtered or destroyed on welfare grounds.

Reference: Parkinson, T. J., Vermunt, J. J., & Malmo, J. (2019). Diseases of cattle in Australasia: a comprehensive textbook. New Zealand Veterinary Association Foundation for Continuing Education. Massey University Press, Auckland, 0745, New Zealand.